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Practitioner's Docket No. FMW-QQ-PCT-US *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Wolfgang Ehrfeld et al.

Application No.: 10/009,184 Group Art Unit: 1732

Filed: May 15, 2002 Examiner: Allan R. Kuhns

For: **STORAGE MAGAZINE FOR MICROSTRUCTURED MOLDED PARTS AND FABRICATION PROCEDURE**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Wolfgang Ehrfeld, et al.	Examiner:	Allan R. Kuhns
Serial No:	10/009,184	Group Art Unit:	1732
Filed:	May 15, 2002	Date:	December 19, 2005

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BRIEF FOR APPELLANT

Sir:

Appellant has appealed the Final Rejection of June 28, 2005. Please consider this Appeal Brief filed in accordance with 37 C.F.R. §41.37.

REAL PART IN INTEREST

By virtue of an Assignment dated January 14 and January 16, 2002, by the named inventors, the real party in interest is Institut fur Mikrotechnik Mainz GmbH, having a business address of Carl-Zeiss-Strasse 18-20, Mainz, Germany D-55129. The Assignment has been recorded in the U.S. Patent and Trademark Office on June 3, 2002 at Reel 012952 and Frame 0646.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellant which will affect or have bearing on the Board's decision concerning this Appeal.

STATUS OF CLAIMS

Claims 1-13 and 25-33 are pending in the application. Claims 1-11 and 25-33 have been allowed. Claims 12 and 13 have been rejected and are being appealed.

STATUS OF AMENDMENTS

Appellants' claim amendments presented in Amendment "C" filed March 24, 2005 have been entered by the Examiner. Appellants' Amendment "D" filed August 25, 2005 after the Final Rejection did not present any claim amendments. There have been no additional claim amendments subsequent to the Final Rejection.

SUMMARY OF CLAIMED SUBJECT MATTER

The invention in appealed claims 12 and 13 relates to a procedure for fabricating a first microstructured molded part using a magazine, demolding the magazine/molded part composite, removing the part from the magazine, and reusing the magazine to fabricate at least a second microstructured molded part, see page 8, fourth full paragraph through page 10, third full paragraph. In the procedure, at least one microstructured molded part is fabricated using a prefabricated magazine, see page 8, fourth full paragraph, and page 9, first full paragraph. Thus, the already fabricated or existing magazine is utilized as a mold insert in the production of the microcomponent. The prefabricated magazine carries at least one microstructured molded part by holding contact of at least parts of the side surfaces of the microstructured molded part, see page 10, second full paragraph. Therein it is stated that the invented magazine can hold the microcomponents in a flexible way at any physical height in either on the lateral, i.e. side, and/or facing surfaces and/or bottom surfaces. The holding contact may be positive across the entirety of the respective surface or merely at parts of the respective surface. The inventors thus disclose that the prefabricated magazine holds the microstructured molded part in at least one area of the molded part surface by holding contact.

The procedure further includes the step of simultaneously demolding the magazine and the at least one microstructured molded part as one magazine molded part composite as described on page 8, fourth full paragraph through page 9, first full paragraph. It is further stated on page 9, third full paragraph that after the fabrication of the microcomponents is carried out, the tool is opened and the prefabricated magazine with the formed-in microcomponents is demolded as one single magazine/molded part composite.

Independent claim 12 further contains the step of removing at least one microstructured molded part from the prefabricated magazine. The step is described on at least page 10, third full paragraph. It is preferred that the holding contact between the magazine and one or several areas of the microcomponent surface is formed in a way wherein the magazine's mold material does not create a chemical connection to the molded part's material. This insures that very little force is needed to detach the microcomponent from the magazine. The invented holding contact is especially suitable for fully automated mounting, since virtually no reaction force is transferred to the mounting gripper during removal of the microcomponents. The microcomponents can also be pressed out of the magazine by hand or machine.

The final step claimed in independent claim 12 involves reusing the prefabricated magazine to fabricate at least one additional microstructured molded part. The step is described on at least page 8, fourth full paragraph; page 9, first full paragraph; and page 13, third full paragraph, wherein it is stated that after removal of the microcomponents, the magazine can be reused for the fabrication of additional microcomponents.

An advantage of the procedure allows production of the magazine/molded part composite, wherein the magazine can provide protection for the microcomponents which can have very small and easily damaged microstructures, see page 11, fourth full paragraph. The process of claim 12 also eliminates the disadvantages set forth on page 1, third full paragraph through page 2, fourth full paragraph. Additional advantages described on page 13, fourth full paragraph include that the magazine can connect several molded parts with spaces in relation to each other. This way, several microcomponents can be placed in the invented magazine with reproduced alignment and high position and placement accuracy. This allows simultaneous mounting of many microcomponents with very small mounting tolerances, and therefore, optimizing the gripper paths and increasing the mounting speed.

Figure 5 illustrates microcomponents 1, 10 connected to a magazine 12 by parts of the side surfaces 18, 18' as also described on page 18, first full paragraph.

Figures 11a and 11b show another design example of a magazine 12 with several microcomponents 3, 10 as one magazine/molded part composite 15, whereby

the magazine carries the molded part by holding contact of at least parts of the side surfaces of the microstructured molded part. Figure 11a illustrates magazine (12) in holding contact of the microcomponents (3,11) at the side surfaces (19b), as well as that bottom surface (34), see page 23, first full paragraph also provides a description for Figures 11a an 11b.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

At issue is whether claims 12 and 13 are patentable in view of 35 U.S.C. §112, first paragraph.

ARGUMENTS

Arguments Relating to Claim 12

It is respectfully submitted that the Examiner's argument that the specification is only enabling for providing for providing holding contact only with side surfaces of the microcomponent or microstructured molded part is incorrect and the 35 U.S.C. §112, first paragraph rejection cannot stand. It is further submitted that Appellants' claimed holding contact of at least parts of the side surfaces of the microstructured molded part is commensurate in scope with the teachings of the specification and, therefore, the 35 U.S.C. §112, first paragraph rejection is improper.

It is respectfully submitted that the Examiner has not met his burden of proving a prima facie case of non-enablement and written description and, therefore, the Appellant is entitled to grant of a patent.

As stated by the Federal Circuit,

> "When rejecting a claim under the enablement requirement of Section 112, the (Patent Office) bears an initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by the claim is not adequately enabled by the description of the invention provided in the specification of the application; this includes, of course, providing sufficient reasons for doubting any assertions in the specification as to the scope of enablement." *In re Wright,* 999 F.2d 1557, 27 USPQ 2d 1510, 1513 (Fed. Cir. 1993).

For an application to be enabling, it must explain how to make and use the invention to one of ordinary skill in the art.

It is respectfully submitted that the Examiner has not provided a reasonable basis that the specification is not enabling. The Board has stated:

> "It has been consistently held that the first paragraph of 35 U.S.C. §112 require nothing more than an objective enablement. . . How such a teaching is set forth, whether by the use of illustrated examples or by broad descriptive terminology, is of no importance since the specification which teaches how to make and use the invention in terms which correspond in scope to the claims must be taken as complying with the first paragraph of 35 U.S.C. §112 unless there is reason to doubt the objective truth of the statements relied upon therein for enabling support." See *Id* at 1516 (citing *In re Marzocchi,* 439 F.2d 220, 169 USPQ 367 (C.C.P.A. 1971)).

The written description of the specification as filed places in possession of the public what the Appellant considers to be the invention for which a patent is being sought as claimed in independent claim 12.

Claims 12 and 13 are rejected under 35 U.S.C. §112, first paragraph, because the Examiner states that the specification, while being enabling for providing holding contact only with side surfaces of the microcomponent or microstructured molded part, does not reasonably provide enablement for providing holding contact with both side surfaces and with other surfaces which actually contain microstructures. The Examiner cites the fourth paragraph of page 6 of the specification which indicates that "the invented holding contact exists only with the side surfaces of the microcomponent...". The Examiner states, therefore that the use of "holding contact of at least parts of the side surfaces of the microstructured molded part" is not commensurate in scope with what Applicants state is their invented holding contact.

It is respectfully submitted that the limitation previously added to independent claim 12, namely, "wherein the prefabricated magazine carries the at least one microstructured molded part by holding contact of at least parts of the side surfaces of the microstructured molded part" is adequately described within the specification and

enables those of ordinary skill in the art to make and use the invention. A fairly uniform standard for determining compliance with the written description requirement has been maintained throughout the years. For example, the Federal Circuit in *Ralston Purina Co. v. Far-Mor-Co, Inc.*, 772 F.2d 1570, 227 USPQ 177 (Fed. Cir. 1985), stated that the "the test for sufficiency of support in a parent application is whether the disclosure of the application relied upon 'reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter'". In *Staehelin v. Secher,* the Board added that "[s]atisfaction of the 'written description' requirement does not require in haec verba antecedence in the originally filed application", 24 USPQ 2d 1513 (B.P.A.I. 1992). Further, in *Ex parte Parks,* 30 USPQ 2d 1234 (B.P.A.I. 1994), the Board further elaborated:

> "Adequate description under the first paragraph of 35 U.S.C. 112 does not require literal support for the claimed invention . . . Rather, it is sufficient if the originally-filed disclosure would have conveyed to one having ordinary skill in the art that an appellant had possession of the concept of what is claimed."

The Examiner relies on the fourth paragraph of page 6 of the specification which states that the "the invented holding contact exists only with the side surfaces of the microcomponent . . . ". The Examiner states that the paragraph at least implies the desire to avoid holding contact with surfaces that may actually contain microstructures.

As set forth hereinabove, the claim 12 claim limitation "wherein the prefabricated magazine carries the at least one microstructured molded part by holding contact of at least parts of the side surfaces of the microstructured molded part" is supported in the specification and enabled as originally filed on at least page 10, second and third paragraphs, page 20, third and fourth full paragraphs, page 23, first and second paragraphs, Figure 8 and Figures 11a and 11b.

It is respectfully submitted that the fourth paragraph of page 6 relied upon by the Examiner relates only to one of numerous embodiments and descriptions of the invention set forth in the specification as filed. The Appellant is not limited to only the paragraphs cited by the Examiner, but instead to the subject matter set forth in the entire four corners of the specification as filed.

Page 10, second paragraph clearly states that the magazine adheres to the molded part in at least one area of its surface by holding contact (emphasis added). The paragraph further states "the invented magazine can hold the microcomponents in a flexible way at any physical height and either on the lateral and/or facing surfaces and/or bottom surfaces." It is further stated that "the holding contact may be positive across the entirety of the respective surface or merely at parts of the respective surface." The term "lateral" relates to a side surface as understood when compared to the described facing and bottom surfaces. The specification is thus enabling for numerous different combinations of holding contact of the microstructured molded part by the magazine and encompasses as claimed the "holding contact of at least parts of the side surfaces".

Page 10, third paragraph, states that the holding contact between the magazine and one or several areas of the microcomponent surface are formed in a way where the magazine's mold material does not create a chemical connection to the molded part's mold material, but rather in the form of a physical holding contact, so that very little force is needed to detach the microcomponent from the magazine.

Figure 8 also shows the claimed limitation as magazine (12) carries a microstructured molded part (1,10) by holding contact of the side surfaces at magazine overhang (16) as well as a surface perpendicular thereto, i.e., on a face surface of the microstructured molded part.

Similarly, Figures 11a and 11b show another design example, wherein the magazine carries the at least one microstructured molded part by holding contact of at least parts of the side surfaces of the microstructured molded part that meets the requirements of 35 U.S.C. §112, first paragraph, for enablement and written description. As discussed on page 23, first full paragraph, microcomponents (3,10) are held by magazine (12) at a side surface (19b) as well as at bottom surface (34).

In summary, the invention claimed in independent claim 12 is fully and clearly described as originally filed. The Appellant has put the public in possession of what the Appellant claims as its own invention. According to the law, the Appellant is not limited to only the fourth paragraph of page 6 of the specification as indicated by the Examiner. Appellant respectfully requests allowance of independent claim 12.

Arguments Relating to Claim 13

Claim 13 has only been rejected in view of its dependency on claim 12. Allowance of claim 13 is earnestly solicited.

CLAIMS APPENDIX

1. (Previously Presented) A procedure for the replicative fabrication and packaging of at least one microstructured molded part in form of one magazine/molded part composite, comprising the following process steps:

a. Replicatively fabricating at least one microstructured molded part using an initially closed tool which comprises at least one first and one second tool half;

b. Opening both tool halves, whereby the molded part remains in the first tool half;

c. Replacing at least the second tool half with at least one additional tool half;

d. Replicatively fabricating the magazine using the first tool half which contains the molded part and the additional tool half;

e. Simultaneously demolding the magazine and the molded part as one magazine/molded part composite.

2. (Previously Presented) A procedure for the replicative fabrication and packaging of at least one microstructured molded part as one magazine/molded part composite, comprising the following process steps:

a. Replicatively fabricating the magazine using an initially closed tool which comprises at least one first and one second tool half;

b. Opening both tool halves, whereby the magazine remains in the first tool half;

c. Replacing at least the second tool half with at least one additional tool half;

d. Replicatively fabricating at least one microstructured molded part using the first tool half which contains the magazine and the additional tool half;

e. Simultaneously demolding the magazine and the molded part as one magazine/molded part composite.

3. (Previously Presented) A procedure according to Claim 1, wherein at least one microstructured mold insert is used for fabrication of the magazine and/or the molded part in the tool.

4. (Previously Presented) A procedure according to Claim 1, wherein the molded part and the magazine is fabricated with different physical heights.

5. (Previously Presented) A procedure according to Claim 1, wherein the magazine is fabricated with a lateral overhang in comparison to the horizontal dimension of the molded part.

6. (Previously Presented) A procedure according to Claim 1, wherein the magazine is fabricated with a holding contact to parts of the side surfaces of the molded part.

7. (Previously Presented) A procedure according to Claim 1, wherein the magazine is fabricated with a holding contact to the microstructures of the molded parts.

8. (Previously Presented) A procedure according to Claim 1, wherein the magazine is fabricated with recesses.

9. (Previously Presented) A procedure according to Claim 1, wherein the magazine is fabricated with a holding contact to the bottom or face surface of the molded part.

10. (Previously Presented) A procedure according to Claim 1, wherein the magazine is fabricated with a holding contact to parts of the bottom or parts of the face surface of the molded part.

11. (Previously Presented) A procedure according to Claim 1, wherein the molded part and the magazine are fabricated with the same or with different mold materials.

12. (Previously Presented) A procedure for the replicative fabrication and packaging of at least one microstructured molded part as one magazine/molded part composite,

comprising the following process steps:

a. fabricating at least one microstructured molded part using a prefabricated magazine, wherein the prefabricated magazine carries the at least one microstructured molded part by holding contact of at least parts of the side surfaces of the microstructured molded part ;

b. simultaneously demolding the magazine and the at least one microstructured molded part as one magazine/molded part composite;

c. removing the at least one microstructured molded part from the prefabricated magazine; and

d. reusing the prefabricated magazine to fabricate at least one additional microstructured molded part.

13. (Previously Presented) A procedure according to Claim 12, wherein a split tool is used which comprises at least one first and one second tool half.

14-24 (Canceled)

25. (Previously Presented) A procedure according to Claim 2, wherein at least one microstructured mold insert is used for fabrication of the magazine and/or the molded part in the tool.

26. (Previously Presented) A procedure according to Claim 2, wherein the molded part and the magazine is fabricated with different physical heights.

27. (Previously Presented) A procedure according to Claim 2, wherein the magazine is fabricated with a lateral overhang in comparison to the horizontal dimension of the molded part.

28. (Previously Presented) A procedure according to Claim 2, wherein the magazine is fabricated with a holding contact to parts of the side surfaces of the molded part.

29. (Previously Presented) A procedure according to Claim 2, wherein the magazine is fabricated with a holding contact to the microstructures of the molded parts.

30. (Previously Presented) A procedure according to Claim 2, wherein the magazine is fabricated with recesses.

31. (Previously Presented) A procedure according to Claim 2, wherein the magazine is fabricated with a holding contact to the bottom or face surface of the molded part.

32. (Previously Presented) A procedure according to Claim 2, wherein the magazine is fabricated with a holding contact to parts of the bottom or parts of the face surface of the molded part.

33. (Previously Presented) A procedure according to Claim 2, wherein the molded part and the magazine are fabricated with the same or with different mold materials.

34. (Canceled)

EVIDENCE APPENDIX

Not Applicable.

RELATED PROCEEDINGS APPENDIX

Not Applicable.

Respectfully submitted,

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